



DEPARTMENT OF ALCOHOL and DRUG PROGRAMS

Information Management Services Division

California Outcome Measurement System (CalOMS) Treatment CERTIFICATION TESTING GUIDE

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1. INTRODUCTION

This document is a companion document to the High Level Overview of CalOMS Treatment Certification Testing, dated September 26, 2005. This detailed guide addresses the more technical aspects of certification testing; therefore its intended audience is primarily the county IT personnel and vendors who are directly involved in CalOMS Treatment system development and implementation.

This document assumes that readers are familiar with the CalOMS Treatment project and have read and understood the system requirements and design documents. Reference material regarding CalOMS Treatment is available on ADP's website, <http://www.adp.ca.gov>.

Active participation and communication between the county and ADP is the key to not only a smooth and effective certification testing process, but also to a successful transition from CADDs to CalOMS Treatment. Please do not hesitate to call us with any questions or concerns regarding the certification testing process; we are looking forward to working with each county in implementing the CalOMS Treatment project.

Note: To avoid redundancy, the term "county" is used throughout this document to refer to both counties and direct provider trading partners. Also, the term "CalOMS Treatment" is now being used instead of simply "CalOMS" in order to differentiate from "CalOMS Prevention," which is part of the overall CalOMS project.

2. PURPOSE AND SCOPE

Certification testing of a county's CalOMS Treatment data collection and reporting system is required before the county can begin sending production or "live" CalOMS treatment data to ADP. This process helps to ensure that a county's system is ready to transmit electronic data that meets CalOMS data requirements and data quality standards published in the CalOMS Data Compliance Standards, File Instructions, and Data Dictionary documents.

The intent of this guide is to provide a "roadmap" through the CalOMS Treatment certification testing process for county IT personnel and vendors as they complete development of their respective CalOMS Treatment systems and prepare for implementation. This guide describes the different steps in the certification testing process, their sequence, and their entry/exit criteria.

Please note that while the core steps in the certification testing process will be the same for every county, some variance and/or customization in certain testing activities is expected to be necessary due to the wide variety of systems being developed by different counties, or on their behalf by third-party vendors. Therefore, while this guide describes the core steps that are required as part of the actual certification tests, step-by-step procedures for actual test execution will be developed by the ADP Certification Test Team in collaboration with each county as part of the preparatory activities.

3. CERTIFICATION TESTING STEPS

Following are the major steps or phases in the certification testing process:

- Scheduling
- Preparatory Activities
- Test Execution
- Certification (milestone)

Each of these steps has specific entrance and exit criteria in order to ensure completion and readiness before advancing to the next step. Each step has a number of activities associated with it, which are described in detail beginning in Section 8 of this Guide.

4. CERTIFICATION TESTING APPROACH

ADP's approach to certification testing is predicated upon the need to test critical functions and edits of each county's system in order to provide a reasonable assurance that it meets system requirements and is capable of providing the expected level of data quality. Specifically, the focus of certification testing is to test the system's ability to create valid records and files, and to transmit data files successfully. ADP's approach to conducting these tests is also predicated upon the need to minimize workload impact upon each county.

ADP's intent, therefore, is not to exhaustively test every possible error condition in county CalOMS Treatment systems, but to test the most critical functions as well as a representative sample of those areas where errors and problems are most likely to occur.

Further, ADP's certification testing process does not replace a county's own system testing. If ADP was to exhaustively test each county's system for every possible error, it would be prohibitively time and resource-intensive for each county as well as for ADP. Although the certification testing process should provide a reasonable assessment of

whether a county system is ready to begin sending production data, it is possible that an error may be discovered after the system has been certified and moved to production. As with initial development, it remains the county's responsibility to fix any error that may be found after the system is in production.

5. CERTIFICATION TESTING SUCCESS CRITERIA

To pass testing and become certified to send production data, each county must demonstrate its ability to successfully:

- **Pass Connectivity Testing** – specifically the ability to upload and transmit CalOMS Treatment data files to ADP via the Department of Mental Health (DMH) ITWS portal, receive e-mail acknowledgements, and access returned data and reports.
- **Pass Record and File Format testing** – specifically the ability to create and send CalOMS Treatment records and files in the proper format and syntax, as specified in the CalOMS File Instructions document.
- **Pass End-to-End testing** – specifically, the ability to enter and process data that meet the same level of field and relational edits as specified in the CalOMS Data Dictionary.

6. RESOURCE COMMITMENTS AND EXPECTATIONS

ADP will assign a certification test team at the point that certification testing is scheduled for a county. The test team will consist of a lead tester, the CADDs liaison for that county, and a test support person. The test team will be available to respond to questions and to provide timely direction and communication throughout the entire testing process.

During the testing process, it is essential that county and/or vendor technical staff be readily available, not only for ongoing communication with ADP and to conduct the testing, but to promptly remediate any issues or errors that are discovered. If a county is contracting with or using a vendor, coordination of resource schedules and availability is essential during the certification testing window.

7. TESTING METHODOLOGY

7.1 Individual County Certification Testing

In general, each county is to conduct its own individual certification testing in collaboration with ADP. In addition to the certification process per se, individual testing benefits a county by helping county staff better understand their system and any issues, workarounds, or non-standard features.

An exception to this policy of individual county certification testing may be made by ADP where a third-party vendor develops one system for use by multiple counties and there is no customization at the individual county level. The vendor must submit verification or demonstrate that exactly the same system is being delivered or provided to each county. ADP may then allow one county to act as the representative county for the full certification testing process, while allowing other counties to go through an abbreviated testing process. This exception may be made upon request and on a case-by-case basis by the ADP Certification Test Team.

7.2 Test Records and Files

To accomplish testing in a standardized and structured manner as expeditiously as possible, ADP is preparing a core set of test records to be input and used by each county. This core set of test records will be given to the county for data entry in advance of the testing process. The core set will consist of approximately 75 “good” and “bad” records. Which include a mix of record types, e.g., admissions, discharges, annual updates, resubmissions, deletions, and “provider no activity” reports. The intent of this core set of records is to test the basic functionality and critical edits of the county system.

Additionally, ADP will provide a supplemental set of approximately 100 test records for additional testing of data elements and records. Each county will be given the option of using the supplemental set provided by ADP or substituting their own set of the same number of test records. A county may find substituting its own set of test records to be advantageous in terms of reducing data input workload. It also provides a county the opportunity to see whether records they have created and which have passed through their own system edits are also able to pass through ADP system edits without errors.

7.3 Standard Test Process

The core process for testing will be the same from county to county, but the test methods and test data may vary somewhat because of the differences in the design of different

county systems. As the ADP Certification Testing Team works with county and vendor staff in preparing for test execution, they will adjust the testing process as needed to realistically reflect the specific system being tested.

8. SCHEDULING

The first step for a county in the certification testing process is to schedule the two-week window for certification testing. As described in the High-Level Overview, the certification testing period for county CalOMS Treatment systems runs from November 15, 2005 and end on March 15, 2006. During October 2005, the ADP Certification Testing Team will begin contacting each county to determine whether they are ready to schedule a two-week window for certification testing.

The first part of the scheduling process is an initial readiness assessment. The ADP Certification Test Team will call each county during October to schedule a teleconference with county IT personnel and the county's vendor (where applicable) in order to discuss system development project status to ascertain when all system development and testing activities will be completed and certification testing can begin.

This initial readiness assessment should take approximately one hour. ADP plans to hold these discussions via teleconference, unless the county prefers a face-to-face meeting.

Once the readiness assessment is completed and indicates a reasonable probability that a county will be ready by a specific time, a two-week window for certification testing will be scheduled. A county is expected to complete all preparatory activities, as described in Section 5, before it can begin certification testing. If unforeseen events occur during the preparatory period that will cause the county not to be ready for certification testing by the scheduled date, the county is responsible for promptly notifying ADP. A county may also be offered the opportunity to test earlier if certification testing is completed ahead of schedule for other counties.

ADP is estimating that the average length of time for certification test execution to be two weeks, not including preparatory activities. The duration of time will vary depending upon a variety of factors, such as the number of issues and errors that are found, the amount of time it takes the county or vendor to make any required fixes, and any retesting that may be needed. The testing window may be extended by several days if the reasons for extending the time appear resolvable within the extended time period. However, if a county system appears to have serious flaws that will require a lengthy period of time to resolve, certification testing may need to be rescheduled to a later date.

9. PREPARING for CERTIFICATION TESTING

Preparatory steps are shown in detail in the High-Level Overview document, and are duplicated here for reader convenience. Each county is highly encouraged to stay in frequent contact with the ADP Certification Test Team throughout the entire preparatory process, to ensure that any issues, concerns or questions are resolved satisfactorily and timely.

# of Weeks/Days Before Testing Begins	ADP	County
Six Weeks Before Testing	The ADP Certification Testing Team will contact the county for a preliminary discussion regarding certification testing.	County testing staff should review the CalOMS Certification Testing Detailed Guide, and communicate any questions or concerns to the ADP Certification Test Team.
Four Weeks Before Testing	ADP testing staff will initiate an in-depth teleconference with the county to discuss testing guidelines, issues and concerns. ADP will provide a listing of its Master Provider File for the county, to ensure that ADP and county records match.	The CalOMS Treatment System Profile/Questionnaire (which will be disseminated) must be completed and returned to ADP by this time. County clean-up of CADDs suspense and unmatched discharge records should be completed by this time.
Three Weeks Before Testing	ADP will send the county a listing of test records (approximately 200–250) to be input for testing, along with any new or updated instructions for data entry of the test records, processing them, then creating and transmitting the test files.	Review the test records and identify any issues, questions or concerns regarding the data entry process.
Two Weeks Before Testing	ADP will contact the county to discuss the test file and record transmittal process in detail, and to answer any outstanding questions or concerns.	Set up and check the test environment to ensure there are no unanticipated problems, such as firewall issues or spam filters that might block e-mails and/or file transmissions.

# of Weeks/Days Before Testing Begins	ADP	County
One Week Before Testing	ADP will begin daily readiness preparation teleconferences	All system testing, remediation and regression testing needs to have been completed. Conduct a readiness check to ensure that everything is ready for certification testing. Remove any "live" data from the file server to be used for testing. All county staff involved in the testing process should be fully trained and familiar with their testing responsibilities and assignments. It is highly recommended that where possible, backup staff should also be trained and assigned.
One Day Before Testing	The ADP Certification Testing Team member assigned to the county will contact the county testing manager to confirm testing readiness, and to go over any last minute questions, changes, or issues	

10. ENTRY INTO CERTIFICATION TESTING

In order to be approved for entry into certification testing by the ADP Certification Test Team, the county must first complete the following:

- All county system testing has been completed, and all errors have been remediated and regression tested
- All requested system documentation, including the System Questionnaire/Profile, has been submitted to ADP
- ITWS authorization and log-on has been obtained
- A county test environment that does not include "live" production data has been set up and its operability validated
- The county list of active providers and the type(s) of service they provide have been verified against the ADP Master Provider File for currency and completeness

- A contact list of county and vendor (where applicable) test staff has been provided to ADP.
- A final readiness assessment interview has been conducted with the ADP Certification Test Team.
- All other required preparatory activities have been completed

11. CERTIFICATION TEST EXECUTION

11.1. General Guidelines

Each test shown below in Sections 11.3 through 11.5 will be conducted sequentially, starting with connectivity testing. Each test must be successfully completed and the results confirmed by the ADP Certification Test Team before commencing the next test.

The ADP Certification Test Team will review results for each test and will confer with the county (and vendor where applicable) regarding the results within one (1) business day. If the results are successful and without error, the county may then move on to the next test; otherwise, the county must correct any identified issues or errors and successfully resubmit this first file before transmitting the next group of test records to ADP. This is an iterative process which will continue until all test files and records are transmitted and processed without error.

During the testing process, daily conference calls may be established to ensure optimal problem identification and resolution. If a county is unable to complete the testing process within the two week time period, the testing window may be extended if it appears that the outstanding issues do not require extensive time to correct. However, depending upon the number of issues and their criticality, the county and/or ADP may decide to terminate further testing until the system can be completely fixed.

In some of the test cases, such as those testing the annual update report, it may be necessary for the county and/or vendor to “open” the file or system in order to force certain dates or values that may be required as part of the test. Specific situations where this may be required will vary from system to system. Prior to beginning the actual testing process, the ADP Certification Test Team will discuss with the county and/or vendor those situations where this may necessary, and determine the specific approach to take.

ADP estimates the average duration period for the actual certification testing process to be approximately two weeks. This includes:

- Creating and/or data entry of the test records
- Processing and transmitting test records and files

- Reviewing test results by ADP and reporting the results, issues and errors back to the county
- Review of issues and errors by the county
- Correcting any errors and then regression testing (re-testing) the corrections
- Re-transmitting the test files and records to ADP
- Repeating the cycle until each test has been passed

11.2 Test Initiation

On the first day of testing, the ADP Certification Test Team will contact the designated county test manager at the pre-arranged time to give clearance for the county to transmit its initial test file. This initial test file will be a file intended for connectivity or interface testing only, i.e., to test the county's ability to successfully transmit a file and to receive confirmation back. During this process, county and ADP testing personnel must remain in telephone and/or e-mail contact to ensure an orderly testing process and to resolve any issues as quickly as possible.

11.3. Connectivity Test

This is the initial test because it validates whether the county system can successfully transmit a file to ADP via ITWS. As such, it is a necessary precursor to other tests.

The county will need to create one file for this test. The file is to be constructed according to the specifications contained in the CalOMS County File Layout document (revision date 6/13/2005). For file testing purposes, the file should contain a single record, plus header and EOF.

Success for this test is demonstrated by ITWS receiving the test file from the county, accepting it, and returning the correct acknowledgement message to the county.

11.4. Record Layout/Syntax Test

The record layout/syntax test can be initiated immediately upon confirmation from ADP that the connectivity test was successful.

The intent of this next test is to verify that the county system can:

- Create a zipped and password protected file which can be opened and read
- Create a record with the correct delimiters and with the data elements in the correct sequence

- Create a “provider no activity” record
- Create records which correctly reflect each different form type
 - Admissions (standard, youth)
 - Discharges (standard, administrative, detox, youth)
 - Annual Update Reports (standard, youth)
 - Deletions
 - Resubmissions

Dummy data values can be used, since as with the first test, there is no intent during this test to check data validity.

Success for this test phase is demonstrated by the county system’s ability to create the files, records and record form types described above without errors.

11.5 End-to-End Test

The purpose of the End-to-End test is to validate the county system’s ability to correctly create, edit and process CalOMS Treatment data records from the point of initial data entry through the creation and transmittal of files to ADP. As discussed previously, certification testing will employ end-to-end testing to ensure that the system functions and constructs work correctly, and that critical field and relational edits are correctly applied.

For the End-to-End test, the ADP Certification Test Team will provide a core set of approximately 75 test cases in an Excel worksheet to the county several weeks before beginning the actual testing process. Each test case represents one test record. Note: This core set of 75 test cases represents the minimum number of cases needed to adequately test basic system functionality and the most crucial edits, such as those for key fields.

In addition to the core set of test cases, ADP will also be providing a supplemental set of 75 – 100 test cases. These test cases are intended to provide a greater depth and breadth of testing. As an option to using the supplemental set of test cases provided by ADP, a county may elect to use an equivalent number of its own set of test records. A county may find substituting its own records in lieu of the supplemental set provided by ADP to be advantageous in terms of reduced data input, and in being able to see the results of how its own records fare when transmitted to ADP.

The test records encompass the full range of form types, including admissions (both youth and adult), discharges (administrative and ‘normal’), annual update reports, deletions and resubmissions, covering multiple reporting months. For a county with

more than one provider, the test records will reflect multiple providers. Additionally, the test records will represent records with both “good” and “bad” data to be entered. The following examples illustrate the typical range and type of edits to be tested:

- Does the county system allow the same FSN to be entered for different clients?
- Can an invalid provider number be entered and the record submitted to ADP?
- If a valid provider number is entered, does the system allow an invalid type of service to be entered for that provider?
- If “Male” is entered for *Gender*, will the county system accept a value of “Y” in the *Pregnant At Admission* field?
- Does the county system accept a null value for a data element, where not allowed by ADP, e.g., no value entered in the *Gender* field?
- Does the county system accept a value outside the allowable range for a data element, e.g., “25” for *Source of Referral*?

Specific instructions for data entry of the test records will vary depending upon the nature of the county system; however, the general procedures are as follows:

- After receiving authorization from the ADP Certification Test Team, test records should be input at the normal point of data entry. If records are normally input at the provider level and electronically transmitted from the provider to the county, they should be input the same way for testing.
- Some of the test records contain invalid values or other errors. If the system does not accept the value for a data element, the data entry person should substitute a valid value, and indicate on the Excel worksheet what action was taken. Records that can be input without an error message should also have a notation made on the worksheet to that effect.
- Once all records have been input, a file should be created and transmitted to ADP.

The ADP Certification Test Team will review the results and provide them back to the county and/or vendor within one (1) business day. Any issues or errors will be identified, for correction and re-testing by the county. The end-to-end testing cycle will repeat until all issues and errors have been corrected. Re-testing may involve the use of different and/or larger test files to ensure that other similar errors are not found. (Note: if the volume of errors or their nature indicates a fundamental flaw in the county system that can not be readily corrected within the testing window, certification testing may be postponed until a later date).

Success for this test phase is demonstrated by the ability to input, process and transmit test records without error.

12. CERTIFICATION

Once a county successfully completes CalOMS Treatment certification testing, ADP will

- Certify the county system as ready to begin sending production data to ADP
- Send a confirming e-mail to the County AOD Administrator, IT Manager, and to the vendor, where applicable.
- Collaborate with the county to determine the transition date from CADDs to CalOMS, and to begin sending production CalOMS data to ADP.

13. ONGOING OPERATIONS

After a county is certified and begins sending production CalOMS Treatment data, ADP will monitor data file submissions as part of its normal data management activities.

However, it is the county's responsibility to closely monitor each data file submission not only initially, but on an ongoing basis in order to identify any previously unknown issues or problems in the data.